

# International Search Report

## PATENT COOPERATION TREATY

### PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>PCT1126-019</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 00/00637</b>	International filing date (day/month/year) <b>01/27/2000</b>	(Earliest) Priority Date (day/month/year) <b>02/13/1999</b>
Applicant <b>OSTEOGENETICS GMBH</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

#### 1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☒ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.     

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 00/00637

## Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remarks: Even though claim 27 relates to a method for treating the human/animal body, the search was conducted and based on the cited effects of the combination/composition, provided that the latter are even searchable.
2. ☒ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
See supplemental sheet ADDITIONAL COMMENTS PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 00/00637

ADDITIONAL COMMENTS

PCT/ISA/ 210

Continued from Box I.2

The applicable claims 1, 2, 4-12, 14-29 relate to a disproportionately large number of possible polypeptides, of which only a small portion find support in the description, as defined by Art. 6 of the PCT and/or can be considered to be disclosed in the application, as defined by Art. 5 of the PCT. In this case, the claims lack appropriate support and the application lacks sufficient disclosure thereby making it seemingly impossible to conduct a reasonable search that covers the entire scope of protection being sought. Thus, the search was directed to those portions of the claims that do appear to be sufficiently supported and disclosed in the sense referred to above, namely the portions relating to polypeptides RKRA and RKRAKHKQ (see claims 3, 13)

The applicant is reminded that claims or portions of claims to inventions for which no international search report has been issued, normally may not be the subject of an international preliminary examination (Rule 66.1 (e) PCT). In its capacity as the international preliminary examination authority, the EPO, therefore, will not conduct a preliminary examination for subject matter for which no search report has been issued. This also applies to the case of claims that were amended after receipt of the international search report (Art. 19 PCT), or where the applicant has submitted new claims in response to the proceeding under Chapter II of the PCT.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 00/00637

## A. CLASSIFICATION OF SUBJECT MATTER

IPK 7 C12N15/12 C12N15/62 C12N5/10 C07K14/51 C07K7/08  
A61K38/18 A61K31/70 A61P19/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPK 7 C12N C07K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	RUPPERT R. ET AL.: "Human bone morphogenetic protein 2 contains a heparin-binding site which modifies its biological activity" EUR. J. BIOCHEM., Vol. 237, 1996, pages 295-302 XP000891887 cited in application the entire document	1,2, 4-12, 14-29
A		3,13
X	WO 97 47312 A (COMMW BIOTECHNOLOGIES INC) December 18, 1997 (12-18-1997)  Abstract Claims 1-21  --- -/-	1,2 4-12 14-29

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

### \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier application or patent but published on or after the international filing date  
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
"&" document member of the same patent family

Date of the actual completion of the international search

April 13, 2000

Date of mailing of the international search report

05/03/2000

Name and mailing address of the ISA/EP  
European Patent Office  
Patentlaan 2, Rijswijk, Netherlands  
Facsimile No.

Authorized officer  
I. Galli  
Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 00/00637

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FROMM J.R. ET AL.: "Differences in the interaction of heparin with arginine and lysine and the importance of the basic amino acids in the binding of heparin to acidic fibroblast growth factor." ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, Vol. 323, No. 2, November 10, 1995 (11-10-1995), pages 279-287, XP000891918 Table 1	1,2, 4-12 14-29
X	ALBERDI E. ET AL.: "Pigment epithelium-derived factor (PEDF) binds to glycosaminoglycans: analysis of the binding site" BIOCHEMISTRY, Vol. 37, 1998, pages 10643-10652 XP002135602 Figure 8 ---	1,2, 4-12 14-29
X	EP 0 414 915 A (SUNTORY LTD :INQUE MASAYASU (JP)) March 6, 1991 (03-06-1991)  the entire document	1,2, 4-12, 14-29
A	WO 91 18558 A (CREATIVE BIOMOLECULES INC) December 12, 1991 (12-12-1991) Abstract -----	29

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
**PCT/EP 00/00637**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9747312 A	12-18-1997	US 5877153 A	03-02-1999
		AU 3216797 A	01-07-1998
		CA 2257614 A	12-18-1997
		EP 0907368 A	04-14-1999
EP 0414915 A	03-06-1991	DE 69027383 D	07-18-1996
		DE 69027383 T	11-14-1996
		WO 9010694 A	09-20-1990
WO 9118558 A	12-12-1991	US 5645591 A	07-08-1997
		AT 132043 T	01-15-1996
		AU 639574 B	07-29-1993
		AU 7961491 A	12-31-1991
		CA 2082946 C	12-10-1996
		DE 69115934 D	02-08-1996
		DE 69115934 T	05-23-1996
		DK 608211 T	05-13-1996
		EP 0608211 A	08-03-1994
		ES 2081484 T	03-01-1996
		GR 3019339 T	06-30-1996
		JP 2679409 B	11-19-1997
		JP 6505642 T	06-30-1994